

### Abstract

A semiconductor component having a silicon-bearing layer and a praseodymium oxide layer, wherein arranged between the silicon-bearing layer and the praseodymium oxide layer is a mixed oxide layer containing silicon, praseodymium and oxygen. The layer is of a thickness of a maximum of 5 nanometers. A production process for such a semiconductor component is also provided. It is possible by means of the mixed oxide layer to improve on the one hand the capacitance of the component in relation to previously known components which contain a silicon oxide intermediate layer. On the other hand a high level of charge carrier mobility is achieved without the necessity for a silicon oxide intermediate layer.